

Prevalence of pain and associated factors in venous ulcer patients*

Prevalência de dor e fatores associados em pacientes com úlcera venosa

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ABSTRACT

BACKGROUND AND OBJECTIVES: Pain is a very frequent symptom in venous ulcer patients and may be persistent and/or exacerbated during dressing change. Pain affects quality of life and may negatively impact wound healing. This study aimed at identifying the prevalence of pain and at evaluating major pain-associated factors in venous ulcer patients.

METHODS: This is a transversal study carried out in a Teaching Hospital of Natal, RN. Convenience sample was made up of 100 venous ulcer patients seen by the angiology ambulatory of this hospital. A structured interview form with socio-demographic and health characteristics, and assistance and injury characteristics was used, in addition to two questions about pain from the Medical Outcome Study Short Form 36 (SF-36). Mann-Whitney test was used to compare categorical variables. Significance level was $p < 0.05$.

RESULTS: Pain was referred by 86% of evaluated patients. Patients with profession/occupation, low income and who did not smoke/drank, using compressive therapy, who were oriented about using compressive therapy and leg lifting, with minor injuries, in epithelialization stage, with no odor and without signs of infection had lower pain intensity and lower impact of pain on daily life activities.

CONCLUSION: Socio-demographic factors and aspects regarding assistance and injury have influenced venous ulcer-related pain. Interventions aiming at influencing such factors might help controlling these patients' pain.

Keywords: Leg ulcer, Nursing care, Pain, Varicose ulcer.

RESUMO

JUSTIFICATIVA E OBJETIVOS: A dor é um sintoma muito frequente em pacientes com úlceras venosas e pode ser persistente e/ou ser exacerbada durante as trocas de curativo. A presença de dor afeta a qualidade de vida e pode influenciar negativamente a cicatrização da ferida. O objetivo deste estudo foi identificar a prevalência de dor e verificar os principais fatores associados à dor em pacientes com úlceras venosas.

MÉTODOS: Estudo transversal, desenvolvido em um Hospital Universitário em Natal, RN. A amostra, de conveniência, foi constituída por 100 pacientes com úlcera venosa atendidos no ambulatório de angiologia do referido hospital. Utilizou-se um formulário estruturado de entrevista com características sociodemográficas e de saúde, características da assistência e da lesão, além de duas questões sobre dor do *Medical Outcome Study Short Form 36 (SF-36)*. Para a comparação das variáveis categóricas, foi utilizado o teste Mann-Whitney. O nível de significância estabelecido foi $p < 0,05$.

RESULTADOS: A dor esteve presente em 86% dos pacientes avaliados. Pacientes com profissão/ocupação, de baixa renda e que não fumavam/bebiam, que usavam terapia compressiva, que receberam orientações sobre uso de terapia compressiva e elevação de membros inferiores, com lesões menores, em fase de epiteliação, sem odor e sem sinais de infecção apresentaram menor intensidade da dor e menor impacto da dor nas atividades do dia a dia.

CONCLUSÃO: Fatores sociodemográficos, relacionados à assistência e à lesão influenciaram a dor relacionada a úlceras venosas. Intervenções que visem influenciar esses fatores tem potencial para auxiliar no controle da dor desses pacientes.

Descritores: Cuidados de enfermagem, Dor, Úlcera de perna, Úlcera varicosa.

INTRODUCTION

Venous ulcers (VU) are a public health problem causing considerable economic impact because they affect people of different age groups and very often lead to absenteeism or job loss¹⁻³. Ulcers recurrence ratio is high, treatment is complex and the injury leads to distress and poorer quality of life³⁻⁷.

The prevalence of VU is increasing in recent years as a reflex of population aging^{4,6,8-10}. In Brazil, although there are few reports on assistances, VUs contribute to increase Single Health System

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(SUS) costs and interfere with the quality of life of patients and their relatives^{3,11}.

Pain is a very frequent symptom in VU patients and its prevalence varies from 80 to 96%¹²⁻¹⁴. It may be persistent and/or be exacerbated during dressing change^{13,15}. In addition, pain negatively affects quality of life, generates mood instability, causes sleep disorders, changes mobility and ambulation, and increases the risk of falls^{12,16,17}.

Pain may also negatively influence wound healing, because painful stimulation is associated to the release of inflammatory mediators which potentially impair tissue repair and regeneration¹⁵.

Notwithstanding the relevance of this symptom, few studies have evaluated pain in VU patients.

This study aimed at identifying the prevalence of pain and at observing major pain-associated factors in venous ulcer patients.

METHODS

This is a transversal study developed in the Teaching Hospital Onofre Lopes (HUOL), SUS tertiary reference and linked to the health complex of the Federal University of Rio Grande do Norte (UFRN), located in Natal/RN, Brazil.

Research target population was made up of VU patients seen by this health service from June to November 2011. Convenience sample was made up of 100 users of HUOL angiology ambulatory.

Inclusion criteria were injury of venous origin; age above 18 years and in return or first visit to HUOL angiology ambulatory. Exclusion criteria were ulcer of arterial origin or mixed and not having completely filled information of data collection tools.

Patients were informed about the objectives of the study and those agreeing to participate have signed the Free and Informed Consent Term (FICT).

Research tools were a structured interview form with sociodemographic and health questions, including assistance and injury characteristics, in addition to two questions about pain from the health-related quality of life tool Medical Outcome Study Short Form 36 (SF-36).

SF-36 is a multidimensional questionnaire, made up of 36 items grouped in eight components and evaluates both negative (disease) and positive (wellbeing) aspects¹⁸. In this questionnaire, pain is evaluated by two questions (7 and 8) which represent pain intensity and its impact on daily life and/or professional activities. Question 7 has evaluated pain intensity in the last four weeks and scores have varied from 1.0 (very severe pain) to 6.0 (no pain), and question 8 has evaluated the extent to which pain has interfered with professional and home activities; scores have varied from 1.0 (extreme interference) to 6.0 (no interference). Pain domain score varies from 0 to 100 and is calculated as from the following formula:

$$\text{Domain} = \frac{\text{score of question 7} + \text{question 8} - \text{lower limit} \times 100}{\text{score variation}}$$

Lower limit for pain domain equals 2. Score variation for pain domain equals 10. Low scores in pain domain indicate higher pain intensity and higher impact of pain on activities; high scores in pain domain indicate lower pain intensity and lower impact of pain on activities.

Collected data were transferred to a database in Microsoft Excel 2007 spreadsheet and, after correction, were exported to, and analyzed by the program Statistical Package for Social Science (SPSS) version 15.0 Windows. In this program, descriptive analyses with absolute and relative frequencies, mean of variables scores and inferential analyses in the crossing of variables were performed. Mann-Whitney test was used to compare categorical variables. Statistical significance level was $p < 0.05$.

The study was approved by the Ethics and Research Committee, Teaching Hospital Onofre Lopes/Federal University of Rio Grande do Norte (HUOL/UFRN), in compliance with Resolution CONEP 466/12, with regard to observed ethical aspects when carrying out research with human beings, under protocol 279/2009.

RESULTS

Sociodemographic data of VU patients have shown predominance of people above 60 years of age, females, married or with stable union. Most patients had low education (83%), profession/occupation (56%) and income below one minimum wage (76%). Prevalence of pain among participants of this study was 86%.

The analysis of the relationship between sociodemographic variables and pain has shown significant association of the pain domain with: profession/occupation ($p=0.001$), income ($p=0.042$) and alcoholism/smoking ($p=0.013$). Patients with profession, low income and who were neither alcoholics or smokers, had better quality of life scores in pain domain, that is, lower pain intensity and lower impact on daily activities (Table 1).

In addition to exploring sociodemographic factors, this study has investigated whether pain had some association with variables related to assistance or to injury characteristics (Tables 2 and 3).

With regard to assistance, it was observed that pain was significantly associated with: use of compressive therapy ($p=0.002$), guidance for the use of compressive therapy ($p=0.030$) and guidance to raise lower limbs ($p=0.002$). Patients under compressive therapy, who received guidance about its use and about raising lower limbs had lower pain intensity and lower impact on daily activities. These findings show that assistance influences ulcer-related pain.

The analysis of injury-related variables has shown that pain was significantly associated with: wound bed condition ($p=0.011$), VU odor ($p=0.009$), VU area ($p=0.001$) and signs of infection ($p=0.001$). Patients with VU with predominance of granulation or epithelialization tissue, no odor, with small injuries ($<50\text{mm}$) and with no signs of infection had lower pain intensity and lower impact of pain on daily activities.

Table 1. Association between pain domain and sociodemographic variables. Natal, 2011

	Score Pain domain (SF-36)	p value
Gender		
Female	51.87	0.478
Male	47.45	
Age group		
≥ 60 years	46.55	0.129
< 60 years	55.33	
Marital status		
Single/widower/divorced	54.96	0.225
Married/stable union	47.77	
Education		
Up to elementary school	48.07	0.062
High school/university	62.38	
Profession/occupation		
Present	59.10	0.001
Absent	39.56	
Income		
< 1 minimum wage	53.79	0.042
≥ 1 minimum wage	40.08	
Chronic diseases		
Present	46.64	0.101
Absent	56.29	
Sleep		
< 6 hours	40.86	0.053
≥ 6 hours	53.71	
Alcoholism/smoking		
Present	36.67	0.013
Absent	54.18	

SF-36: Medical Outcome Study Short Form 36.

Table 2. Association between pain domain and variables related to assistance. Natal, 2011

Variables	Score Pain domain (SF-36)	p value
Use of compressive therapy		
Absent	45.05	0.002
Present	65.22	
Guidance for the use of compressive therapy		
Absent	43.44	0.030
Present	56.04	
Guidance to raise lower limbs		
Absent	35.21	0.002
Present	55.87	
Guidance for regular exercises		
Absent	48.35	0.310
Present	54.49	
Visits to angiologist		
< 4 visits per year	50.76	0.835
≥ 4 visits per year	49.13	
Reference and counter-reference		
Absent	45.35	0.120
Present	54.39	

SF-36: Medical Outcome Study Short Form 36.

Table 3. Association between pain domain and variables related to injury characteristics. Natal, 2011

	Score Pain domain (SF-36)	p value
VU recurrence		
≥ 1 recurrence	48.53	0.223
None	56.75	
Time of current VU		
> 6 months	50.68	0.919
Up to 6 months	50.02	
VU bed condition		
Fibrin and/or necrosis	45.21	0.011
Granulation/epithelialization	61.02	
Amount of VU exudate		
Medium to large	45.02	0.068
Small (up to 3 gauzes)	55.51	
VU exudate odor		
Present	37.69	0.009
Absent	54.62	
VU-induced tissue loss		
Grades III and IV	49.47	0.994
Grades I and II	49.52	
VU area		
Medium to large	40.68	0.001
Small (<50 mm)	60.72	
Signs of infection		
Present	41.98	0.001
Absent	61.34	

SF-36: Medical Outcome Study Short Form 36; VU: venous ulcer.

DISCUSSION

Observed sociodemographic characteristics confirm results of other studies reporting predominance of females, with low income and low education among VU patients in different contexts^{19,20}.

Prevalence of pain in our study was high (86%) and similar to other studies which evaluated VU patients and found prevalence between 80 and 96%¹²⁻¹⁴.

The observation that patients with profession/occupation had lower ulcer-related pain may be explained by the Gate Control Theory^{21,22}, which explains that people maintaining their activities are exposed to more sensory stimulations, tend to focus less attention on, and perceive less pain. On the other hand, patients remaining at home and/or without labor activities tend to focus their attention on pain.

The fact that lower income patients had lower pain intensity and lower impact of pain on daily activities was not expected, but such patients might have shown more resilience to pain considering the lack of options in the context where they live. Another possibility is that low income patients have no option, except maintaining their activities at home and at work, which could interfere with the attention given to pain. These patients may also consider that pain is part of venous ulcer presentation, which may affect their pain evaluation.

The observation that smokers/alcoholics had higher pain intensity and impact on their daily activities was expected, since VU-related pain has major neuropathic components which may be worsened by the consumption of these substances. The relationship between smoking and chronic pain is well-known and smoking is considered a risk factor for chronic pain²³.

In our study, patients with smaller injuries had lower pain intensity and lower pain impact on quality of life. A study comparing pain intensity in patients with healed and open ulcers has shown that patients with healed ulcers had lower pain intensity¹⁵, thus confirming our findings.

Our study has found association between VU-related pain and aspects of assistance and of the injury, which suggests that interventions focused on such factors could contribute to control those patients' pain. This hypothesis, however, should be tested in future studies.

Effective pain control brings unquestionable benefits to the quality of life of VU patients and there is a study indicating that adequate pain control also contributes to ulcer healing, which should also be tested in future studies¹⁵.

CONCLUSION

Pain is a very frequent symptom among VU patients and its presence negatively affects quality of life. Patients with profession/occupation, low income and who did not smoke/drink had lower impact of pain on quality of life. Similarly, patients under compressive therapy, who received guidance about its use and raising of lower limbs, with smaller injuries, in epithelialization stage, with no odor or signs of infection had lower pain intensity and lower impact of pain on their daily activities.

These findings allow to state that sociodemographic factors related to assistance and to the injury are associated to VU pain. Interventions aiming at decreasing tobacco and alcohol consumption, at encouraging occupational/labor activities, at guiding about compressive therapy and lower limbs raising and at improving wound bed conditions have potential to help controlling pain of such patients.

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